

De-isolating COVID-19 Suspect Cases: A Continuing Challenge

Jun-Yang Tay^{1,2}, Poh Lian Lim^{1,2}, Kalisvar Marimuthu^{1,2}, Sapna Pradip Sadarangani^{1,2}, Li Min Ling^{1,2}, Brenda Sze Peng Ang^{1,2}, Monica Chan^{1,2}, Yee-Sin Leo^{1,2}, Shawn Vasoo^{1,2}

¹National Centre for Infectious Diseases, ²Department of Infectious Diseases, Tan Tock Seng Hospital

Correspondence: Dr Shawn Vasoo, Clinical Director, National Centre for Infectious Diseases, 16 Jalan Tan Tock Seng, Singapore 308433. shawn_vasoo@ncid.sg

VISIT...

LANZAROTE
Caliente.COM

Dear Editor:

As of 15 February 2020, Singapore had screened a total of 991 suspect cases for COVID-19, of which 72 cases tested positive, 812 cases tested negative, while the remaining 107 had pending results.⁽¹⁾ Besides optimising sample type to increase yield,⁽²⁾ the challenge in clinical management of suspect cases lies in deciding whether they may be de-isolated or if further isolation and repeat testing is required.

No single indicator may be effectively used to decide on de-isolation of a suspect case. In our series of positive cases, samples from one suspect case only returned positive on the fifth repeated sample (nasopharyngeal swab), on the seventh day of clinical illness. Current evidence suggests that transmission of COVID-19 may be possible even from asymptomatic contacts,⁽³⁾ and polymerase chain reaction (PCR) testing may not return positive initially.⁽⁴⁾ Our suspect case was kept isolated because of a high index of clinical suspicion, with a clinically compatible illness and history of close contact with a laboratory-proven COVID-19 case. While multiplex respiratory virus panels, in general, may be helpful in the evaluation of other viral acute respiratory infections (ARIs), even the detection of an alternate respiratory pathogen may not definitively exclude COVID-19 infection. Dual infections can occur in 10-20% of viral acute respiratory infections, as has been reported with SARS-CoV and MERS-CoV.⁽⁵⁾ In our case series, one patient with confirmed COVID-19 by nasopharyngeal aspirate also exhibited clinical symptoms compatible with dengue fever. This was laboratory confirmed by dengue NS1 antigen test. (PL Lim, personal communication).

There were two notable operational challenges the de-isolation of suspect cases. With substantial numbers of suspect cases admitted for isolation and the need to hold patients for repeated testing, there was a need to manage isolation room occupancy. However, for

patients who needed ongoing inpatient care for other reasons, we also needed to address the risk of inadvertent nosocomial amplification, to reduce the risk of transmission from patients who had tested negative early in their clinical illness. A rigorous framework was required to help clinicians de-isolate COVID-19 patients safely.

At the National Centre for Infectious Diseases (NCID), we have used the following algorithm as our decision-making matrix to decide on the disposition of our patients (Fig 1).

As with other respiratory viruses, factors such as sample type (lower respiratory samples being preferable in patients with pneumonia) and specimen collection technique will contribute to the sensitivity and ease of diagnostic testing. We addressed the challenge of delayed positivity in coronavirus testing in relation to illness onset, by having staff continue to use surgical masks when providing care to patients testing negative for COVID-19 but who were still within the first 7 days of respiratory symptoms. Our algorithm incorporates epidemiological and clinical features needed to decide the disposition of suspect cases, while acknowledging that microbiologic testing might be negative early in the course of illness. With emerging data and further understanding of COVID-19, this algorithm may be refined further, and its performance assessed prospectively.

None of the authors have any potential conflicts to disclose.

REFERENCES

1. Updates on COVID-19 (Coronavirus Disease 2019) Local Situation. Retrieved from <https://www.moh.gov.sg/covid-19>. Accessed February 15, 2020.
2. To, K. K.-W., Tsang, O. T.-Y., Chik-Yan Yip, C. et al (2020). Consistent detection of 2019 novel coronavirus in saliva. *Clinical Infectious Diseases : An Official Publication of the Infectious Diseases Society of America*, 1–14. <https://doi.org/10.1093/cid/ciaa149>.
3. Rothe, C., Schunk, M., Sothmann, P. et al (2020). Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. *New England Journal of Medicine*, 2019–2020. <https://doi.org/10.1056/nejmc2001468>.
4. Xie, X., Zhong, Z., Zhao, W. et al (2020). Chest CT for Typical 2019-nCoV Pneumonia: Relationship to Negative RT-PCR Testing. *Radiology*. <https://doi.org/10.14358/PERS.81.12.21>.
5. Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected. Retrieved from [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected). Accessed February 15, 2020.

Figure 1 Legend: NCID De-isolation Criteria for COVID-19 Suspect Cases.

Figure 1

